

## CLAIMS

What is claimed:

- 1 1. A computer system for generating recommendations, the system comprising:
  - 2 a rule system for defining a set of rules, each rule having a predicate component and an
  - 3 action component,
  - 4 a set of recommendation systems, and
  - 5 a defined interface for accessing each of the recommendation systems in said set of
  - 6 recommendation systems to permit a one of the recommendation systems to be invoked
  - 7 from an action component in a rule in the set of rules in the rule system.
- 1 2. The computer system of claim 1 in which the set of recommendation systems comprises
  - 2 one or more empirical recommendation systems.
- 1 3. The computer system of claim 2, further comprising a set of connections, each connection
  - 2 comprising a means for passing data from the rule system to a one of the empirical
  - 3 recommendation systems for processing by the empirical recommendation system.
- 1 4. The computer system of claim 3 in which the means for passing data from the rule system
  - 2 to the empirical recommendation system comprises an event-listener connection.

1 5. The computer system of claim 4 in which the rule system comprises rules for receiving  
2 events, rules for filtering events and rules for forwarding events to a one of the empirical  
3 recommendation systems.

1 6. The computer system of claim 2 in which the rule system comprises rules for preprocessing  
2 data prior to accessing a one of the empirical recommendation systems.

1 7. The computer system of claim 2 in which the rule system comprises rules for  
2 postprocessing data following the access of a one of the empirical recommendation  
3 systems.

1 8. The computer system of claim 2 in which the defined interface comprises a definition of  
2 means for obtaining recommendations based on a specified user from the one or more  
3 empirical recommendation systems.

1 9. The computer system of claim 2 in which the defined interface comprises a definition of  
2 means for the one or more empirical recommendation systems to prioritize items based on a  
3 specified user.

1 10. The computer system of claim 3 in which the recommendations of the computer system are  
2 provided to a web-based display system for the display of pages to a shopper in an  
3 electronic commerce site maintained for an on-line store.

1 \ 11. The computer system of claim 10 in which the defined interface defines a means to make  
2 available to the one or more empirical recommendation systems the following:  
3 a) data uniquely identifying the shopper,  
4 b) data uniquely identifying the store, and  
5 c) a specified maximum number of recommendations. —

1 \ 12. The computer system of claim 11 in which the defined interface defines a means to make  
2 available to selected ones of the one or more empirical recommendation systems one or  
3 more of the following:  
4 a) a set of initial recommendations,  
5 b) a set of category information for constraining the recommendations to be returned, and  
6 c) information about the environment from which the rule system was invoked.

090771.0501  
"F0F050" T224860

1 13. A computer system for generating recommendations for personalization of an e-commerce  
2 site, the system comprising,  
3 a rule system for defining a set of rules, each rule having a predicate component and an  
4 action component,  
5 a set of empirical recommendation systems,  
6 a defined interface for accessing each of the empirical recommendation systems in said  
7 set of empirical recommendation systems to permit a one of the empirical  
8 recommendation systems to be invoked from an action component in a rule in the set of  
9 rules in the rule system, and  
10 a set of event-listener connections, each connection comprising a means for passing data  
11 from the rule system to the empirical recommendation system for processing by the  
12 empirical recommendation system.

1 14. The computer system of claim 13 in which the rule system comprises rules for  
2 preprocessing data prior to accessing a one of the empirical recommendation systems.

1 15. The computer system of claim 13 in which the rule system comprises rules for  
2 postprocessing data following the access of a one of the empirical recommendation  
3 systems.

1 16. The computer system of claim 13 in which the defined interface comprises a definition of  
2 means for obtaining recommendations from the set of empirical recommendation systems  
3 based on a specified user accessing the e-commerce site.

1 17. The computer system of claim 13 in which the defined interface comprises a definition of  
2 means for the set of empirical recommendation systems to prioritize items based on a  
3 specified user accessing the e-commerce site.

1 18. The computer system of claim 13 in which the recommendations of the computer system  
2 are provided to a web-based display system for the display of pages to a user accessing the  
3 e-commerce site.

1 19. The computer system of claim 13 in which the defined interface defines a means to make  
2 available to the set of empirical recommendation systems the following:  
3 a) data uniquely identifying a consumer accessing the e-commerce site,  
4 b) data uniquely identifying the e-commerce site, and  
5 c) a specified maximum number of recommendations.

- 1 20. The computer system of claim 19 in which the defined interface defines a means to make  
2 available to selected ones of the set of empirical recommendation systems one or more of  
3 the following:  
4 a) a set of initial recommendations,  
5 b) a set of category information for constraining the recommendations to be returned, and  
6 c) information about the environment from which the rule system was invoked.

- 1 21. A computer program product for providing recommendations, the computer program  
2 product comprising a computer usable medium having computer readable code means  
3 embodied in said medium, comprising computer readable program code means for  
4 implementing the computer system in any of claims 1 to 20.

1 22. A method for generating a set of personalization recommendations using a rule system, and  
2 a set of empirical recommendation systems, the rule system comprising rules having  
3 predicates and actions, the method comprising the steps of:  
4 defining an interface to permit the empirical recommendation systems in said set of  
5 empirical recommendation systems to be called from the rule system,  
6 defining a set of rules in the rule system, selected rules in the set of rules comprising  
7 calls using the interface to the empirical recommendation systems, and  
8 invoking the rule system to provide a set of personalization recommendations by  
9 evaluating rule predicates and firing rule actions in the rule system and to call one or  
10 mor of the empirical recommendation systems as defined in the fired rule actions

1 23. The method of claim 22 where the step of calling an empirical recommendation system  
2 defined in a fired rule action further comprises the step of establishing an event-listener  
3 connection to the empirical recommendation system to permit data to be provided to the  
4 empirical recommendation system.

1 24. The method of claim 23 in which the step of defining rules in the rule system further  
2 comprises the step of defining preprocessing rules for preprocessing event data before  
3 passing an event to the empirical recommendation system.

Express Label #: EF338556025US

1 25. The method of claim 23 in which the step of defining rules in the rule system further  
2 comprises the step of defining postprocessing rules for postprocessing recommendations  
3 provided by the empirical recommendation system.

1 26. A computer program product for providing recommendations, the computer program  
2 product comprising a computer usable medium having computer readable code means  
3 embodied in said medium, comprising computer readable program code means for  
4 implementing the method of claims 22, 23, 24 or 25.

1 27. A computer program comprising computer program code means adapted to perform the  
2 steps of any of claims 22 to 25 when said program is run on a computer system.

0984771-050101